

REMARKS

Claims 13-24 are currently pending in the present application with claim 13 being in independent form. Claim 13 is currently amended to state that the optical elements can be shifted relative to each other in a direction perpendicular to the optical axis when in the eye. Additionally, claim 13 was amended to state that the optical elements have an asymmetric surface shape. Support for amended claim 13 and newly added claim 25 can be found, for example, in the Figs. as filed. In view of the claim amendments and following remarks, removal of the rejections and allowance of claims 13-24 is respectfully requested.

35 U.S.C. §102

Claims 13-20 and 24 are rejected under 35 U.S.C. §102(a) as being anticipated by U.S. Patent No. 6,616,691 to Tran (hereinafter "Tran").

Claim 13 is directed to an artificial intra ocular lens of variable optical power comprising at least two optical elements (1, 2) which can be shifted relative to each other in a direction extending perpendicular to the optical axis when in the eye. The optical elements (1, 2) of claim 13 have an asymmetric surface shape (3, 4) and exhibit, in combination, different optical powers at different relative positions. The optical elements are each connected to an elastic haptic (5, 6) and a non-elastic haptic (7, 8), and the elastic haptic (5, 6) of one element is connected to the non-elastic haptic (7, 8) of the other element through a connecting anchor (9, 10).

Tran generally discloses a two-optic accommodative system (10) with two optical elements (12, 14) centrally aligned in the optical axis of the eye. [Abstract; column 3, lines 38-41] The optical elements (12, 14) of Tran are configured to move along the direction of the optical axis. Movement of the optical elements (12, 14) along the optical axis changes the distance between the optical elements (12, 14) and, thereby, changes the optical strength of the intraocular lens providing accommodation to the eye. The optical elements (12, 14) of Tran are generally symmetrical. [Column 3, lines 51-52].

Because Tran does not teach 1) movement of the asymmetrical optical elements in the direction perpendicular to the direction of the optical axis of the eye when in the eye; 2) optical elements with an asymmetric surface shape; or 3) an intraocular lens with an asymmetric configuration, Tran does not anticipate claim 13.

First, Tran does not teach movement of the asymmetrical optical elements in the direction perpendicular to the direction of the optical axis of the eye when in the eye. This is distinguishable from artificial intraocular lens of claim 13, wherein the power of the lens is amended through movement of the asymmetrical optical elements in the direction perpendicular to the direction of the optical axis of the eye when in the eye. Specifically, if the optical elements of Tran were moved perpendicular to the optical axis, a significant distortion of the image on the retina would result. In the lens of Tran the haptics have been designed to cause a movement along the optical axis. Since Tran does not and cannot teach movement of the asymmetrical optical elements in the direction perpendicular to the direction of the optical axis of the eye when in the eye, Tran does not anticipate claim 13.

Additionally, the lens of claim 13 requires the optical elements to have an asymmetric surface shape. The asymmetric shape can be a saddle shape (claim 16). As previously indicated, Tran teaches the shape of the surfaces of the optical elements to be symmetrical. Because Tran does not teach an asymmetric optical surface, Tran does not anticipate claim 13.

Finally, claim 13 requires that the "optical elements are each connected to an elastic haptic and a non-elastic haptic", thereby giving the lens an asymmetric configuration. The asymmetric structure of claim 13 is necessary to obtain the required change of optical power and leads to the mutual movement of the optical elements and hence to the change in optical strength of the lens as a whole. This is contrary to Tran that teaches a symmetric intraocular lens. Particularly, the haptics of Tran have a different stiffness to allow movement along the axis, but the haptics connected to one of the optical elements have the same stiffness. Only the haptics connected to different optical elements have different stiffness. In other words, the haptics connected to both optical elements have a symmetric structure. Because Tran does not teach or suggest an intraocular lens with an asymmetric configuration, Tran does not teach each and every limitation of the claim 13.

Claims 14-20 and 24 depend from and further limit claim 13 and are, therefore, believed to be novel over Tran for at least the aforementioned reasons. Therefore, removal of the rejection of claims 13-20 and 24 under 35 U.S.C. § 102(a) of Tran is respectfully requested.

35 U.S.C. §103

Tran in view of Snyder

Claims 13-20 and 24 are rejected under 35 U.S.C. §103(a) as being obvious over Tran as applied to the claims above, and further in view of U.S. Patent Application Publication No. 2002-0091442 to Snyder (hereinafter "Snyder").

Snyder is directed toward surgical procedures involving haptics of an intraocular lens to fix the lens to a part of the eye. The lens of Snyder is of a standard optical design (e.g., a spherical or parabolic design) and is not an accommodative lens.

However, Snyder does not account for the deficiencies of the teachings of Tran. Particularly, Snyder does not provide any reason to 1) move the asymmetrical optical elements in the direction perpendicular to the direction of the optical axis of the eye when in the eye; 2) provide optical elements with an asymmetric surface shape; or 3) provide an intraocular lens with an asymmetric configuration. Because neither Tran nor Snyder provides any reason to modify the teachings of Tran to teach the above-identified claim limitations, claim 13 is non-obvious over Tran in view of Snyder.

Claims 14-20 and 24 depend from and further limit claim 13 and are, therefore, believed to be non-obvious over Tran in view of Snyder for at least the aforementioned reasons. Therefore, removal of the rejection of claims 13-20 and 24 under 35 U.S.C. §103(a) over Tran in view of Snyder is respectfully requested

Tran in view of Fiala or Tran and Snyder in view of Fiala

Claims 21-23 are rejected under 35 U.S.C §103(a) as being obvious over Tran as applied above, and in further view of United States Patent No. 6,120,148 to Fiala et al. (hereinafter "Fiala"), or alternatively over Tran and Snyder in further view of Fiala for the reasons set forth on page 6 of the Office Action.

Claims 21-23 depend from and further limit claim 13. Fiala is applied to teach a single lens with different annular zones of which the zones themselves are of a standard optical design (e.g., spherical or parabolic lenses, typical for so-called multifocal lens designs). Such lens does not move in the eye and does not accommodate the eye. However, Fiala does not account for the deficiencies of Tran or Snyder. Particularly, Fiala does not teach or suggest any reason to 1) move the asymmetrical optical elements in the direction perpendicular to the

Application No. 10/589,320
Paper Dated: September 23, 2009
In Reply to USPTO Correspondence of June 25, 2009
Attorney Docket No. 3135-062156

direction of the optical axis of the eye when in the eye; 2) provide optical elements with an asymmetric surface shape; or 3) provide an intraocular lens with an asymmetric configuration. Since none of Tran, Snyder or Fiala provide any reason to provide the intraocular lens of claim 13, claims 21-23 are also patentable over Tran in view of Fiala or Tran and Snyder in view of Fiala. Withdrawal of the rejections under 35 U.S.C §103(a) and allowance of claim 21-23 is respectfully requested.

CONCLUSION

In view of the above remarks, reconsideration of the rejections and allowance of claims 13-24 are respectfully requested.

Respectfully submitted,
THE WEBB LAW FIRM

By 
John W. McIlvaine
Registration No. 34219
Attorney for Applicant
436 Seventh Avenue
700 Koppers Building
Pittsburgh, PA 15219
Telephone: (412) 471-8815
Facsimile: (412) 471-4094
E-mail: webblaw@webblaw.com